

Sea Turtles
A Study on Human and Marine Turtle Interactions and Significance in the State of Hawaii



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Abstract

A group of six interns under the guidance of Regina Woodrom Luna conducted research around the island of Oahu at various locations to illustrate the cultural significance of sea turtles to the Hawaiian cultural, specifically the Honu, Hawaii's green sea turtle (*Chelonia mydas*). Four research techniques were used for the collection of our data, such as, human and marine turtle surveys, sea turtle merchandise surveys, car emblem surveys, and business, tattoo, and home logo surveys. Each intern has been responsible for one type of data to analyze. I, Carolyn Mae Wells, have analyzed the data of the car emblem surveys. Luna's pilot study, illustrated the symbolism of sea turtles of the Hawaiian culture through the significant amount of sea turtle emblems on automobiles around the Oahu Island. Automobiles are considered a valuable possession to an individual representing their selves. The analysis of the research demonstrated sea turtles are highly valued and culturally significant to the Hawaiian culture.

Introduction

Regina Woodrom Luna worked with turtles in the Caymans, Costa Rica, Mexico, and California and when she arrived to Hawaii she noticed the residents being compassionate to this wild reptile, realizing sea turtles may be important to the Hawaiian culture. She then learned that in the past, the importance and significance of sea turtles in Hawaiian culture was demonstrated through mythology, legends, folklore, ceremonies, and rituals that were related to religious and spiritual beliefs. Moreover, the sea turtles were sacred to the gods, the kings, and the high chiefs (Woodrom Luna 2003b). Therefore, Woodrom Luna conducted a pilot study suggesting that the turtle's significance and importance may continue into modern times in such forms as family legends, family "Aumakua", personal family deity and ancestor, and in displays and behavior such as: sea turtle tattoos, sea turtle images incorporated onto homes, cars, and businesses and the use of sea turtle images in business logos. Therefore, her data expresses examples of contemporary manifestations and displays of behavior that suggests the sea turtle as a culturally significant organism, elevated above other marine organisms (Woodrom Luna 2004). Also, during her pilot study she found Hawaii's tourist economy to be an important aspect of sea turtle culture. Sea turtle watching had increased (Balazs 1995, 1996) and in Waikiki, sea turtle merchandise now outsells whale merchandise by a margin of 3 to 1 (Woodrom Luna 2004).

To further research the cultural and social significance of honu, the green sea turtle, (*Chelonia mydas*), six interns, under the guidance of Regina Woodrom Luna, conducted additional research, we used four research techniques for data analysis, such as, human and marine turtle surveys, sea turtle merchandise surveys, car emblem surveys, and business, tattoo, and home logo surveys. The data was collected on the Island of Oahu at various locations from February 2005 to May 2005. Each intern was responsible for analysis of the data. The focus of this report is the data analysis of the car emblem surveys, comparing the amount of sea turtle car emblems to the amount of other car emblems, specifically the marine mammals, the dolphin and the whale. Hypothesizing sea turtle car emblems will out number the dolphin and whale car emblems. In addition, an analysis of personal reasoning of publicly expressing symbolism, a concept of art (Nutall), of sea turtle emblems, especially on their automobiles. As the project at whole and my analysis of the car emblems, it is hypothesized that turtles are culturally significant to Hawaii through the symbolism of car emblems; therefore, these threatened species (DLNR 2002) are cared for by the culture for which they want to conserve and protect.

Since the beginning of the human society, cultures around the world have manifested art that symbolizes their lifestyle; such as, religion, honoring of gods and royalty, spirituality, and environment (Nutall). Many cultures express their values through symbolism of decorations and personal possessions. Visual arts are considered to be among the most sophisticated forms of human communication, being shaped by their social context. Art history evidently unravels significance to a culture, as people have represented their world and how they have expressed their ideas and ideals. It has been questioned why we need art. Biologist account for the human desire for art by explaining that the large brain of the human demands stimulation; therefore, art serves

as a vital function for our need to understand and communicate (Stokstad xxxvi). Also, being able to view art today links us with the people of the past and with different places and cultures, serving as an educational purpose (Stokstad xliii).

Art...., what is it? Once defined as a technical practice of a skill, such as the sculpture of the Great Sphinx, but today the definition of art is endless, as long as expression is created, for example, painting, sculpting, and photography. The ancient Greek philosopher Aristotle analyzed art on the basis of *mimesis* (imitation), the process of the artists recording what they saw in the natural world (Stokstad xxx).

Examples of Art Symbolisms

Paleolithic sculptures, which date back to 10,000-40,000 years ago, include stone carvings of women and highly skilled painting of the animals, which the people depended on for food. Most likely these images symbolize magical or religious significance for the artists (Nutall).



Figure 1: Paleolithic stone carvings. Source: Nutall

The Assyrians of northern Mesopotamia (modern Kuyunjik, Iraq) were one of many who sculpted their royalty into stones to honor them. King Assurbanipal ruled from 669-C. 627 BCE and his palace was decorated with narrative panels. Many of them are of him and his subjects battling and hunting, but some show him and his queen relaxing in a garden in the palace courtyard along with his servants catering to them. The carvings are in depth, illustrating details of his lifestyle (Stokstad 42).

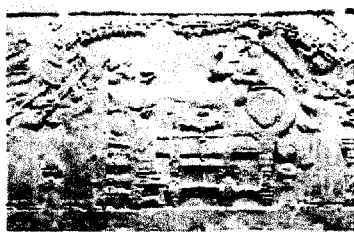


Figure 2: King Assurbanipal and his Queen in the garden. Source: Stokstad 2005

Mesopotamia also consisted of religious art, such as, votive figures to honor their gods. These figures would be placed at shrines to eternally and attentively worship the gods; the reasoning for the wide opened eyes (Stokstad 34).



Figure 3: Votive figures. Source: Stokstad 2005

In 1988 125 pounds of gold jewelry of necklaces, earrings, crowns, bracelets, and pendants was discovered in Assyrian tombs. Then it was depicted that that these jewelries have been apart of their sculptures. The kings wore the pendants while in battle. The jewelry symbolized their royalty (Stokstad 42).

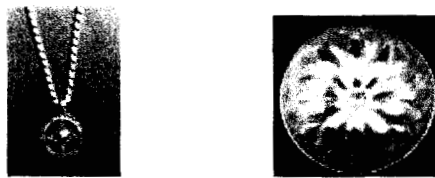


Figure 4: Necklaces, bracelets, and pendants. Source: Stokstad 2005

Ancient Hawaiians even had stone symbolisms, known as petroglyphs, in which they documented their experiences and special occasions, and some incorporated a turtle.



Figure 5: Hawaiian man and turtle petroglyph.
Source: <http://www.frenchspot.com/Graphics/Icons/Petroglyph/petroglyph.html>

Methods and Materials

The six interns met weekly with Regina Woodrom Luna to conduct our research. Interns also individually collected data.

We had visited various locations around the island to conduct car emblem field surveys (Appendix A). The data collected is to determine the significance of sea turtle car emblems with other car emblems. If the opportunity arose a verbal, tape-recorded, or video-recorded interview was recorded to find out the owners reasoning for placing a sea turtle emblem on their car. If a recorded interview (Appendix C) was taken the interviewee was obligated to sign a written consent form (Appendix B). After interviewing, a copy of The Global Significance of the Sea Turtle Informational Handout was given to each interviewee (Appendix D), further describing our research project and contact information of our mentor if further information was desired. We also asked if they would have liked to provide contact information for further interviewing.

At the various locations we would either do the entire location, for instance, UH parking structure, or we would do some of the area, as for Ala Moana Mall, we only did the ground level. At each vehicle where a sea turtle emblem was noticed I would mark on my data sheet how many sea turtles per car. Then I would sketch the picture/pictures of the sea turtle on my data field survey sheet. I would also take note on the make, color, and other car emblems the car had. Next, I would take a picture with my digital camera of the sea turtle emblem (Figure 5) on the car. When the opportunity of an interview did arise, I would ask why they had put sea turtle emblems on their automobile. The interviewees then expressed personal beliefs and stories for their sea turtle emblem.

After each day in the field, I would then upload the sea turtle car emblem pictures to the computer. I would open an excel spread sheet to transcribe all the data I had collected, including: the amount of specific car emblems per site and per car along with the amount of sea turtle emblems, the make of the car, and interviews. The data then was finalized and ready for analysis.

During my analysis I had taken inconsideration the total number of each type of car emblem (Table 1). I compared the amount of car emblems of sea turtles to the amount of car emblems of whales and dolphins (Table 2, Graph 1). I also took inconsideration of analyzing the car emblems that out numbered the sea turtle car emblems. I then made tables and graphs to illustrate my analysis.

Lastly, I had to research art symbolization along with automobile symbolization. Then, I compared my analysis to literature that also analyses cultural symbolism in the Pacific.

The Materials I had used were the car emblem field data survey, digital camera, pen, computer, and tape-recorder.



Figure 5: Example photos of the data collected on sea turtle car emblems

Results

Table 1 illustrates the total number of each type of car emblem. The car emblem category “other” is a combination of car emblems consisting of police, cartoons, surfing, music groups, and radio stations. “Turtle” car emblems are the third highest with a total of 253 car emblems appearing on cars around Oahu. The second highest is “Support our Troops” with 266 car emblems and the highest is Patriotic Pride with 299 car emblems. Another aspect to consider is that the car emblems of “Sports” (108) and “Other” (150) have the next significant amounts then the “Hibiscus/Plumeria” car emblem also shows importance with 91 car emblems.

Table 2 and Graph 1 illustrates that the sea turtle car emblems significantly out number the dolphin and whale car emblems on the cars around the Oahu Island that was collected from our data.

Through the verbal interviews (Appendix C) with owners of the cars, it has been discovered that their reasoning for placing sea turtle emblems on their cars, their possessions, is because they like sea turtles.

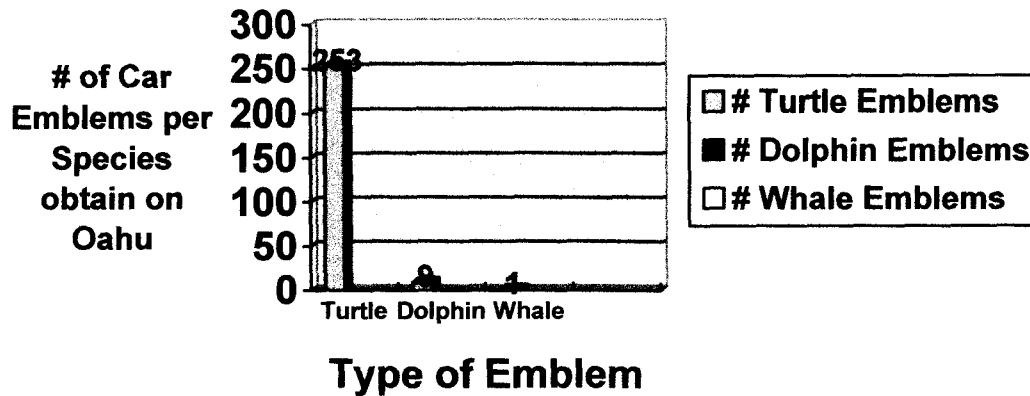
Type of Car Emblem	Number of Car Emblem
School Pride	64
Patriotic Pride	299
Support Our Troops	266
Political	62
Sports	108
Environment	35
Dolphin	9
Whale	1
Game Fish	12
Other Animal	42
Hibiscus/Plumeria	91
Religious or Church Affiliation	34
Other	150
Total (Non-Turtle Emblems)	1,278
Turtles	253

Table 1: Total number of emblems at the various locations on Oahu

Total # of Turtle Emblems	Total # Dolphin Emblems	Total # Whale Emblems
253	9	1

Table 2: Comparison between turtle, dolphin, and whale emblems

Number of Car Emblem Comparison between Turtles, Dolphins, & Whales



Graph 1: Illustration Comparing Number of Car Emblems per Species

Discussion

Our results do demonstrate that sea turtles are valued over the marine mammals, the dolphin and whale due to the outstanding number of “sea turtle” car emblems, 253, compared to the “dolphin” with 9 and the “whale” with 1.

The reasoning behind the “patriotic pride” and “support our troops” can be related to America’s turmoil of the war in Iraq. However, the category “patriotic pride” also contains Hawaiian patronage, as the “Aloha, “Hawaiian sayings”, and other Hawaiian emblem relatedness was listed under “patriotic pride”, along with other patriotic symbols of other cultures.

Sports has always had international popularity of all cultures (ISCA), therefore, our results of 108 car emblems compared to 253 turtle emblems can be understood.

The category “Other” is a mixture of various car emblems, therefore, explains for its abundance of 150.

With the car emblem “Hibiscus/Plumeria” having the sixth highest ranking of car emblems with 91 emblems on cars around Oahu, it is relevant to the fact that hibiscuses and Plumerias are part of the Hawaiian culture along with sea turtles. Therefore, the abundance of “patriotic pride” and “support our troops” is not a continuous part of the Hawaiian culture or continuous relevance of our national culture, since our nation is currently at war. It is merely public expression to support our nation at this mayhem moment. However, “patriotic pride” does support the Hawaiian culture to some extent since it contains some Hawaiian patronage.

It is also significance in why residents place sea turtle emblems on their cars. For example, Cultures have always been crazy about automobiles and automobiles have always been an opportunity for one to express their selves (Economist 2003). For example, Beijing, China has annual lunar new- year festivities and “automobile temple fairs” are a part of their celebration, cars are offered for sale or to admire. Many cultures

celebrate cars in films and music and through movie drive ins. One likes to accommodate their automobile to represent their selves, what one believes in and values (Flayart 2000). This phenomenon has been demonstrated in these films and movies, and there are always constantly automobile gatherings, as in the Volkswagen Club of Hawaii (<http://www.vvwca.com/home/clubs/>). One adds body detail, paintings, and stickers to decorate their car for the public to see, because it represents them (Economist 2003).

It has been discovered that Hawaii's residents have done just that. They have decorated their cars with sea turtle emblems to express to the public that they like sea turtles. For instance, one interviewee stated, "I love sea turtles" (Appendix C). She expresses this love for sea turtles and that she contains sea turtle objects from, jewelry to car emblems.

Furthermore, Jocelyn Linnekin researched consumption of culture identity and discovered local people (Hawaiians) consume in artifacts that they believe to be their own; meaning, products that represent cultural groups by means of key symbols. Also, merchants will target local consumers and will develop products that local people find attractive. Overall, identity merchandise symbolizes political yearnings and cultural construction of ordinary people (Linnekin 1997).

Then there was Alfred Gell. He studied Anthropology of Art and claims anthropology of art is not the understanding and evaluation of art objects, but analyzed art as an active participant in social interactions, such as, art objects in social interactions are treated as persons. Also, that it is essential to acknowledge the commonalities of the art object, both the cultural value and meaning ascribed, and its social and political function. He concludes that works of art become objects of desire; we are fascinated with the object because we are essentially at a loss to explain how such an object comes to exist in the world (Dutton 62).

Again, Hawaii's residents have demonstrated Linnekin's and Gell's research. Through interviews and the abundance of the sea turtle emblems, Hawaii's residents are symbolizing their care and love for their honus, the green sea turtle. Therefore, this symbolized how important sea turtles are to the Hawaiian culture.

Overall, my data clearly illustrates that Hawaiian residents have love for sea turtles, and they demonstrate it through public displays of symbolism. Furthermore, their public display of love for sea turtles and through their interview, demonstrates sea turtles are important and part of the Hawaiian culture. In order to keep this culture alive, additional and continual protection is necessary.

For example, other regions around the world hunt turtles for their egg, shells, and food. Their eggs are used for aphrodisiacs and marketing. Then their shells are used for jewelry, instruments, turtle bags and figures (Spotila 2004). Although this may have been an economic source, it is not a sustainable practice. Therefore, our project provides crucial evidence to protect sea turtles for the sake of their existence and to keep part of the Hawaiian culture alive.

Providing protection for these reptiles will be able to help their existence thrive, which if turtles had protected foraging grounds, their success of survival would be heightened. For instance, besides sharks, the majority of threats that face sea turtles are human induced, for example, the pollution of debris, especially when the turtles swallow plastic, because it remains in their stomachs releasing toxic substances which inhibit their feeding and block their digestion process (Barreiros and Barcelos 2001:1196, Bugoni et al. 2001:1330, Tomas et al. 2002:215). In addition, they mistake plastic bags as jellyfish and swallow recreational fishing hooks as they mistake the bait for food, resulting in injury or death. Also, the fishing gear pollution causes entanglements that either injure or kill the turtles as do animals and other predators that feed on the eggs and hatchlings (Sheppard 2000:59-71). Furthermore, coastal development leads to habitat loss (Engeman et al. 2002:469, MTRP undated). Lights alter the sea turtles guide by the moon, taking the sea turtle off course. And finally, the human activities of boating and riding jet-skis also cause injury and death to the sea turtles, as at times, the sea turtles get caught in the boats

propellers or hit by jet-skis, cutting of a flipper, damaging the shell, or killing them.



Figure 7: Turtle entanglement from fishing line that has cut through the flipper

The sea turtles are a huge part of the by-catch of many fisheries. They are unintentionally captured in shrimp trawls, longlines, and high-seas drift nets. Once they are captured and released, they tend to die within six months. Also, the longline fisheries are allowed to kill up to sixteen leatherback and seventeen loggerhead turtles per year before being shut down (Sheppard2000: 59-71).

Fibropapillomatosis, a sea turtle tumor disease, has been at the forefront of study and research in Hawaii. It is unknown what causes the tumors, but there have been speculations regarding human actions pertaining to toxic substances in the marine turtle's habitats, such as runoffs. (MTFP) (Balazs and Pooley 1991). The pelagic Leatherback turtles are free of the disease and turtles which forage on near shore environments are often the ones infected (Aguirre 1998:10).



Figure 8: A green sea turtle with fibropapillomatosis

Our research is relevant for providing protection for the green sea turtles due to Hawaii's intentions on applying for an Incidental Take Permit (ITP) under the Endangered Species Act (ESA). ITP involves the responsibility of the State to demonstrate how they provide protection for the sea turtles. The state must include all the alternative options they have considered to protect the sea turtles and discuss why the State did not use certain methods to protect the sea turtles- their 'rejected alternatives'. If the state does not adhere to the ITP standards the State will trigger an ESA violation (DLNR 2002). The potential benefits of foraging habitat protection for migratory species, such as sea turtles, are just beginning to be recognized and according to recent studies would critically augment the protection currently provided at the nesting beaches (Roberts and Sargent 2002). Protection of migratory species at foraging habitats in addition to protection at nesting grounds is so important that "protecting these sites could have disproportionately large effects" on maintaining viable populations of such species (Roberts and Sargent 2002:488).

Overall, our project and my research clearly illustrates that sea turtles are culturally important to the Hawaiian culture through symbolism of art, public expression, and personal history. Sea turtles lived through

the evolution and extinction of the dinosaurs by surviving the Jurassic Period. Conquering the ice age, these salt water reptiles have been evolving for over 200 million years (Sheppard 2000:63). There should be no doubt to protect these mesmerizing but vulnerable species!

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Appendix A

CAR EMBLEM FIELD SURVEYS DATA SHEET

Your Name	Date	Photos Taken? Y or N (circle one)
Location	Start Time	End Time

NON TURTLE EMBLEMS: *note: Use hash marks. Example: ☐ ☐ ☐ ☐ ☐ ☐ ☐

		Total # of hash marks
School pride		Total =
Patriotic pride		Total =
Support our Troops		Total =
Political		Total =
Sports		Total =
Environmental		Total =
Dolphin		Total =
Whale		Total =
Game Fish		Total =
Other Animal Life		Total =
Hibiscus or Plumeria		Total =
Other: -----		Total =
Other: -----		Total =
Other: -----		Total =
Total non-turtle emblems =		

SEA TURTLE EMBLEMS: *note: Use hash marks

Sketch	Hash Marks	Sketch	Hash Marks
--------	------------	--------	------------

SEA TURTLE EMBLEMS CONTINUED: *note: Use hash marks

Sketch	Hash Marks	Sketch	Hash Marks
Sketch	Hash Marks	Sketch	Hash Marks
Sketch	Hash Marks	Sketch	Hash Marks

Sketch	Hash Marks	Sketch	Hash Marks
Sketch	Hash Marks	Sketch	Hash Marks
Total sea turtle emblems =			

Appendix B

The Global Significance of the Marine Turtle: A study on human and marine turtle interaction in the state of Hawai'i

***Regina Woodrom Luna; PhD Candidate, Anthropology Dept., Univ. of Hawai'i Manoa
2424 Maile Way; Saunders Hall 346; Honolulu, HI 96822 (808) 295-0079***

Written Consent Form

This research project is being conducted in partial fulfillment of my graduate degree at the University of Hawai'i. The goal of the research is to learn and document the beliefs that draw people to want to see, touch, feed, in some way help sea turtles, or to represent themselves to others as one with a special connection to/interest in sea turtles. My goal is to learn what makes a person willing to spend their very valuable time and/or their hard-earned money in activities involving sea turtles?

In order to learn what is going on between humans and sea turtles, I am traveling around Hawai'i, observing people in the presence of turtles (both the animals themselves and their representations) -- and vice versa -- and I am conducting interviews and taking still and video photographs documenting the significance of the sea turtle to those people. I am hoping that you are willing to participate by allowing me to include you in this documentation process.

In the future, I plan to expand this project to other places around the globe where there are large numbers of people spending their time and/or money in activities involving marine turtles and compare them in an attempt to come up with a model of what makes a person place a significant value on sea turtles and see if that model can be used to get people to care about the ecosystems in which turtles live as well as the other creatures that share those ecosystems with them. But none of that can happen without the assistance of people like you.

I do not foresee any instance where you could be placed at risk due to your participation in this research and can anticipate no foreseeable risks in your participation, but if you wish to decline to participate you may do so at anytime -- even once we have begun, simply say you wish to withdraw and all partially completed materials relating to you will be handed over to you immediately. This project will contribute to the understanding of peoples' relationship with sea turtles and will be used in future marine conservation programs. **The recorded information that I obtain from interviews will be kept secure at all times either on my person or in a locked compartment. After my project is completed I will retain the tapes in a locked desk compartment for five years to be used in writing any further publications, after which they will be destroyed and discarded **

Whether you decide to participate in my research is completely your choice; you can withdraw your participation or your statements at any time during or after the interview, or refuse responses to any questions therein. Should you have any questions or concerns at any time, you can contact me, or the Committee on Human Studies at the University of Hawai'i (808) 956-5007.

I _____ confirm that I have read the above consent form and have had all my questions answered so that I fully understand what my participation involves. I hereby give my informed consent to my participation in this project.

Signed: _____

Appendix C

Kailua 25 Feb 05, 00:00:00 BEGIN INTERVIEW SEGMENT

RL: would you tell us again about why you have so many sea turtle emblems?

WOMan: oh becasue i love the ocean and i love the turtle so i have a gold. necklace of 5 turtles and i have stencils on my cars and i have like on the (unclear) rack I have tutrles.

RL: Where, your spices are?

Woman: On my spice rack theres turtles. There's little buckets of turtles, purple with white turtles and i just love turtles i think they're the most beutiful things in the ocean

RL: Has it always been turtles for you?

Woman: Always turtles from a little girl to now. Turtles and teddy bears.

RL: Were you born here?

Woman: yeah

RL: and you always lived here in Hawaii?

Woman: Yeah

RL: Do you remember the first time you saw a turtle?

Woman: um, when i was about 1 yr old

RL: and you said you saw an albino turtle

Woman: oh yeah that was baout 2 years ago (unclear) I was on the boat tour

RL: and did you go on the tour becasue they said you caould see turtles?

um no the boat owner was my cousin so i took advantage if the free ride (unclear) and I saw the albino turtle. It was the most beautiful turtle ive ever seen beautiful white with dark shell red eyes the most beautiful, in the water it was just so beautiful with the sunlight

RL: So what is it about the turtles that made you want to put them on all your possessions?

Woman: um i guess its our family aumaka

RL: oh it is?

Woman: ANd i just love them

RL: How did you learn it was your aumakua?

Woman: oh i found out down the line, it was my grandmas aumakua

RL: wow well thank you so much for talking to us.

End Interview Segment 02:04:18

From Carolyn Mae Wells <cmwells@hawaii.edu>

Sent Thursday, October 27, 2005 7:30 pm

To biology@hawaii.edu, mop@hawaii.edu

Cc reginal@hawaii.edu

Subject Turtle Final Report

Attachments [See Turtle's final report 11/1/05](#)

Here Sherwood, I ended up doing my report over, so here is what i got so i can at least not get a F before Monday. Thank you so much, take care.

Carolyn